

PATENT ABSTRACTS OF JAPAN

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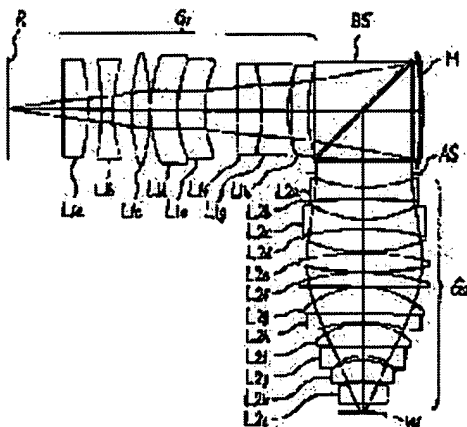
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(54) REFLECTION REFRACTION OPTICAL SYSTEM

(57)Abstract:

PURPOSE: To obtain a large numerical aperture on the image side, to secure a sufficient working distance on the image side and to miniaturize a beam splitter by locating the rear principal point of a second lens group closer to the image side than a light entrance surface on the side of the beam splitter of the second lens group and satisfying a specified condition.

CONSTITUTION: A reflection/refraction optical system makes a light beam from a first surface R pass through a first lens group G1 and a beam splitter BS in order, introduces it to a concave mirror M, makes the light beam from the beam splitter BS reflected by the concave mirror M pass through the beam splitter BS and a second lens group G2 in order and introduces it to a second surface W. The rear principal point of the second lens group G2 is located closer to the image side than a light entrance surface on the side of the beam splitter BS and the conditions: $-1 < 1/\beta M < 0.5$, $0.85 < L1/f2$ are satisfied, where, βM : the image forming magnification of the concave mirror M, L1: a distance between the rear principal point and the light entrance surface and f2: the focal distance of the second lens group G2.



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